

(12) United States Patent

Loebig et al.

(54) INTERCOOLED GAS TURBINE WITH CLOSED COMBINED POWER CYCLE

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(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 260 days.

Appl. No.: 14/134,427

(22)Filed: Dec. 19, 2013

(65)**Prior Publication Data**

> US 2014/0352317 A1 Dec. 4, 2014

Related U.S. Application Data

(60) Provisional application No. 61/786,178, filed on Mar. 14, 2013.

(51) Int. Cl. F02C 7/143 (2006.01)F02C 3/04 (2006.01)F02C 7/12 (2006.01)

(52) U.S. Cl.

F02K 3/06

CPC ... F02C 3/04 (2013.01); F02C 7/12 (2013.01); F02C 7/143 (2013.01); F02K 3/06 (2013.01); F05D 2210/14 (2013.01); F05D 2220/62 (2013.01); F05D 2220/72 (2013.01); F05D 2220/76 (2013.01); Y02T 50/675 (2013.01); Y10T 29/49229 (2015.01)

(2006.01)

(10) **Patent No.:**

US 9,410,478 B2

(45) **Date of Patent:**

Aug. 9, 2016

Field of Classification Search

CPC I	F02C 7/143
USPC	60/728
See application file for complete search hi	story.

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(57)ABSTRACT

A turbine engine includes a fan that provides an air flow to the turbine engine as compressor intake air and as compressor bypass air, a first stage compressor positioned to receive the compressor intake air and output a first stage compressed air, and a boiler positioned to cool the first stage compressed air using a fluid. A second stage compressor is positioned to receive the cooled first stage compressed air. A pump is configured to pump the fluid as a liquid into the boiler, extract energy from the first stage compressed air, and cause the cooling of the first stage compressed air.

19 Claims, 3 Drawing Sheets

